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BOX PCT

Commissioner for Patents
Washington, D.C. 20231

PCT/FR00/03466
-filed December 11, 2000

Re: Application of Loic OLLIVIER, Michel LE CREFF
A METHOD OF TRANSMITTING INFORMATION TO A TELEPHONE
TERMINAL UNIT VIA AN ANALOG LINE, AND
TELECOMMUNICATIONS EQUIPMENT APPLYING THE METHOD
Assignee: ALCATEL
Our Ref: Q65563

Dear Sir:

The following documents and fees are submitted herewith in connection with the above application for the purpose of entering the National stage under 35 U.S.C. § 371 and in accordance with Chapter I of the Patent Cooperation Treaty:

- ☒ an executed Declaration and Power of Attorney.
- ☒ an English translation of the International Application.
- ☒ 1 sheet of drawings.
- ☐ an English translation of Article 19 claim amendments.
- ☐ an English translation of Article 34 amendments (annexes to the IPER).
- ☒ an executed Assignment and PTO 1595 form.
- ☒ a Form PTO-1449 listing the ISR references, and a complete copy of each reference.
- ☒ a Preliminary Amendment

It is assumed that copies of the International Application, the International Search Report, the International Preliminary Examination Report, and any Articles 19 and 34 amendments as required by § 371(c) will be supplied directly by the International Bureau, but if further copies are needed, the undersigned can easily provide them upon request.

**PLEASE SEE THE ATTACHED PRELIMINARY AMENDMENT BEFORE
CALCULATING THE FILING FEE**

The Government filing fee is calculated as follows:

09/913464-001

**Sughrue**

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Total claims	<u>11</u>	-	<u>20</u>	=		x	\$18.00	=	<u>\$0.00</u>
Independent claims	<u>3</u>	-	<u>3</u>	=		x	\$80.00	=	<u>\$0.00</u>
Base Fee									<u>\$860.00</u>

TOTAL FILING FEE	<u>\$860.00</u>
Recordation of Assignment	<u>\$ 40.00</u>
TOTAL FEE	<u>\$900.00</u>

Checks for the statutory filing fee of \$860.00 and Assignment recordation fee of \$40.00 are attached. You are also directed and authorized to charge or credit any difference or overpayment to Deposit Account No. 19-4880. The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16, 1.17 and 1.492 which may be required during the entire pendency of the application to Deposit Account No. 19-4880. A duplicate copy of this transmittal letter is attached.

Priority is claimed from December 16, 1999 based on French Application No. 9915869.

Respectfully submitted,

Robert V. Sloan
Registration No. 22,775
for David J. Cushing
Registration No. 28,703

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Date: August 15, 2001

09/913464

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Loic OLLIVIER, et al.

Appln. No.: Not Assigned

Group Art Unit: Not Assigned

Confirmation No.: Not Assigned

Examiner: Not Assigned

Filed: August 15, 2001

For: A METHOD OF TRANSMITTING INFORMATION TO A TELEPHONE TERMINAL
UNIT VIA AN ANALOG LINE, AND TELECOMMUNICATIONS EQUIPMENT
APPLYING THE METHOD

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows:

IN THE SPECIFICATION:

Page 1, after the title, insert the heading:

Background of the Invention

Page 2, before the first full paragraph beginning with "The invention therefore" insert the heading:

Summary of the Invention

Page 4, before the first full paragraph, insert the heading:

Brief Description of the Drawings

before the second full paragraph beginning with "The figure is" insert the heading:

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Detailed Description of the Invention

IN THE CLAIMS:

Please enter the following amended claims:

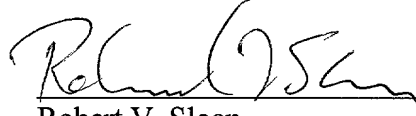
3. (Amended)A method according to claim 1 , wherein the messages are messages whose content is intended to be at least temporarily stored at the unit that receives them.
4. (Amended)A method according to claim 1, wherein the messages are command transmission messages.

PRELIMINARY AMENDMENT
Attorney Docket Q65563

REMARKS

Entry and consideration of this Amendment is respectfully requested.

Respectfully submitted,



Robert V. Sloan
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Date: August 15, 2001

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The specification is changed as follows:

Section headings were added on pages 1, 2 and 4.

IN THE CLAIMS:

The claims are amended as follows:

3. (Amended) A method according to claim 1 ~~or claim 2~~, wherein the messages are messages whose content is intended to be at least temporarily stored at the unit that receives them.
4. (Amended) A method according to ~~any one of claims 1 to 3~~ claim 1, wherein the messages are command transmission messages.

A METHOD OF TRANSMITTING INFORMATION TO A TELEPHONE
TERMINAL UNIT VIA AN ANALOG LINE, AND TELECOMMUNICATIONS
EQUIPMENT APPLYING THE METHOD

5 The invention relates to a method of transmitting
information from a telephone network to which a telephone
subscriber terminal unit, such as a telephone terminal,
for example a telephone, or a shared installation, in
particular a master station, serving a few telephone
and/or mobile telephone terminals, is connected by one or
10 a few analog telephone lines, to communication and
information processing hardware and/or software means in
the terminal unit.

Information transmitted to a telephone subscriber
terminal unit, in particular a telephone, from a
15 telephone network exchange via an analog telephone line
connecting the unit to the exchange is primarily
transmitted in the form of analog signals constituting
tones or tone combinations. This is known in the art.
The tones or tone combinations convey little information
20 because the user must be able to interpret them
immediately on hearing them; they are used to signal
execution or non-execution of a command, for information
only. Also, the same tone may be used for two different
purposes, for example for a wrong number and for a busy
25 line, which leads to ambiguity for the user and for a
tone detector in a terminal unit.

It is also conventional to send a telephone
subscriber terminal unit information from the local
telephone exchange of the unit via an analog telephone
30 line in the form of a recorded announcement, in
particular following a command sent to the exchange from
the unit. However, a telephone subscriber terminal unit
is not usually able to interpret or use a recorded
announcement or any other information taking the form of
35 a voice signal.

This is a serious disadvantage if action has to be
taken at a terminal unit, during an operational sequence,

in, particular through the intermediary of its hardware and/or software action means and at the instigation of the local exchange of the unit, for example in the context of an operation initiated in the unit, usually following a request from a user. This is the case in particular if a user calls on an additional service accessible via the telephone subscriber terminal unit to which he has access, in particular if the operations to be carried out may differ according to the situation encountered.

The invention therefore proposes a method of transmitting information to a telephone subscriber terminal unit having hardware and software information processing means for managing it, such as a telephone terminal or a master station of a shared installation serving a few telephone terminals and/or mobile telephone terminals, from a telephone network to which the terminal unit is connected through a local exchange and via one or a few analog telephone lines.

According to one feature of the invention, there is provision for sending command and/or information messages from the local exchange of the unit to the management logic unit that the information processing means of the destination unit includes, in addition to sending speech signals and signaling in the conventional way between said exchange and said unit, each message being coded so that it can be transmitted from the exchange to the unit by an analog telephone line and transcoded in the unit in order to be interpreted therein. According to the invention, sending command and/or information messages to a telephone subscriber terminal unit from the local exchange of that unit follows a command effected by a user through the intermediary of the telephone terminal unit through which that user communicates.

According to the invention, the messages are messages whose content is intended to be at least temporarily stored at the unit that receives them.

According to a variant of the invention, the messages sent are command transmission messages.

The invention also provides telephone equipment adapted to implement the method.

5 It provides in particular a local exchange for a telephone network which is connected by analog telephone lines to telephone subscriber terminal units having respective hardware and software information processing means for managing them, and in particular telephone
10 terminals and/or master stations of shared installations serving telephone terminals or mobile telephone terminals.

According to one feature of the invention, said exchange includes hardware and software means enabling it
15 to send command and/or information messages to the management logic unit of the information processing means of a telephone terminal unit in addition to sending speech signals and signaling in the conventional way between said exchange and said unit, each message being
20 coded so that it can be transmitted via an analog telephone line from the exchange to the unit.

The invention also provides telecommunications equipment, of the telephone subscriber terminal unit type, including hardware and software information
25 processing means for managing it and adapted to be connected by at least one analog telephone line to a local exchange of a telephone network.

According to one feature of the invention, the telephone subscriber terminal unit type equipment
30 includes hardware and/or software means for communicating and processing information enabling it to receive command and/or information messages from the local exchange via an analog telephone line in addition to speech signals and signaling transmitted from said exchange, said
35 messages being decoded on arrival into a form that can be used by management logic in the information processing means so that it can be exploited.

The invention, its features and its advantages are explained in the following description, which is given with reference to the accompanying single figure.

The figure is a block diagram of a
5 telecommunications system showing various telephone subscriber terminal units connected to a local exchange of a telephone network by analog telephone lines. The units and the exchanges to which they are connected are adapted to implement the method according to the
10 invention.

The method in accordance with the invention of transmitting information is intended to be used in the context of a telecommunications system enabling telephone and/or mobile telephone calls to be set up; the single
15 figure shows one such system diagrammatically and by way of non-limiting example.

This kind of system includes as a minimum a telephone network 1 for connecting diverse telephone subscriber terminal units which are connected for this
20 purpose to interconnected telephone exchanges 2, 2' of the network 1 via analog telephone lines L.

The telephone terminal units are hardware units made available to users and can be highly diverse, as schematically indicated in the figure. Terminal units
25 are shown by way of example that consist of telephones 3 individually connected to a local telephone exchange 2' by an analog telephone line L. Also shown is a terminal unit of a shared telephone installation 4 which constitutes a master station 5 for that unit and which is
30 connected to a local telephone exchange 2 by a telephone line L or possibly by a few telephone lines. The terminal unit that constitutes the master station 5 of the shared telephone installation serves a plurality of telephone subscriber terminals 3' which are compatible
35 with each other and here are symbolized by telephones. This kind of unit is adapted to enable the users of the terminals which share it to communicate with other

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telephone or possibly mobile telephone terminals via the telephone network 1 or via the analog telephone line or lines L serving the installation. In the non-limiting example given here, the master station 5 includes information processing means, which are symbolized by a management logic unit 5D associated with switching means 5C. The switching means can connect the telephone terminals 3' that the unit serves to its local exchange 2 via the analog telephone line or lines L that connect it to the exchange. This is known in the art. As is also known in the art, the switching means 5C can be particularly compact if the terminals 3' are connected in parallel to a line; they are more generally of a type with "n" terminal ports and "m" line ports, where n and m are positive integers.

The master station 5 can serve cordless telephones if it is provided with radio transceiver means enabling it to communicate selectively with the handset of a cordless terminal, for example; the handset is usually provided with a built-in dialing keypad. This is also known in the art.

Another example of a terminal unit is shown and consists of a main mobile telephone unit 7 of a shared installation serving accredited users having mobile telephone terminals 8, for example cordless telephones, such as DECT, CT0 or CT1 cordless telephones, or mobile telephones, such as GSM or other telephones.

The unit 7 includes switching means 7C for selectively connecting one of the accredited mobile terminals 8 connected to it to the telephone line L (or to one of the telephone lines L) to which it is connected. It also includes a management logic unit 7D enabling it to operate on the switching means 7C in particular, as a function of the needs of users and what resources are available. The unit 7 further includes mobile telephone transceiver means 7A and interface means 7B to enable interworking of the transceiver means with

the switching means 7C under the control of the management logic unit 7D. Operation is more particularly dependent on requests received by radio from accredited mobile telephone terminals or from the local telephone exchange 5 via an analog telephone line L. Access to the telephone network by mobile telephone terminals via the unit 7 is enabled for accredited terminals 8 which are in the mobile telephone coverage area of the unit 7 and are validly located near it, for example in the manner that, under different conditions, some of them are near a base station of the mobile telephone network 6.

In one embodiment, the accredited mobile telephone terminals 8 are user terminals of the same organization, such as a small company, which has a master station 7 to meet its needs. The accredited terminals are then likely to be standard mobile telephone terminals of a mobile telephone network offering services to the public. They report their location to the master station 7, when they are in its coverage area, in order to be able to communicate by telephone with all users to whom the telephone network 1 provides access. Outside that area, the mobile telephone terminals 8 are used in the conventional way, once they have been individually located by one of the base stations of the public mobile telephone network, within whose radio range they are situated at the time.

Regardless of the telephone subscriber terminal unit concerned, and as already indicated, the local exchange to which the unit is connected is able to transmit information to it in the context of exchanges of messages between their hardware and/or software communication and information processing means 2D and 5D or 7D, in addition to transmitting analog or digitized speech signals and telephone signaling, which is usual between this kind of unit and the exchange to which it is connected.

The messages are formatted so that they can be used directly by the information processing means that receive

them. They are coded in a manner that enables an analog telephone line to transmit them and the receiving telephone terminal to receive them and interpret them. A terminal unit is therefore necessarily equipped with appropriate decoding means, which may already be included in the unit for other purposes. Decoding means, not shown here, are provided at a line interface level and connected to information processing means, for example a processor, in the terminal unit that includes them, whether the latter is a simple terminal, such as a telephone, or a complex equipment unit such as a shared installation master station or a telephone exchange. This is known in the art.

The messages are transmitted in the V23 or DTMF code, for example, and the receiving terminal unit is equipped with transcoding means, known in the art, for translating them into a conventional binary code that can be used by the processing means of the unit, such as the management logic units 5D and 7D.

Messages of the above kind that can be exploited directly are provided in particular to enable the local exchange of a telephone subscriber terminal unit to respond by means of a message commanding action on a service request, such as dialing a party or activating an additional service. That operation is then effected by or by means of the terminal unit, at the instigation of a user served by that unit. These action command messages can be used in particular after processing them in the unit which receives them, for example in its management logic unit 5D or 7D, to initiate immediate or deferred action in the unit or, where appropriate, in one or more of the terminals that it connects to the telephone network.

One embodiment transmits messages intended to be displayed on the screen of the terminal unit itself, for example if that unit is a telephone with a screen, or a terminal served by that unit, if the latter is of the

shared installation type. For example, there is provision for transmitting and/or displaying messages reflecting acceptance or rejection of a service request submitted by a telephone subscriber terminal unit to the telephone network at the instigation of a user of said unit. There is also provision for transmitting and/or displaying information messages on the screen of a unit or of a terminal that it serves, in particular in the event of an error or a fault in the network, for example relating to a request for a particular operation from the unit to its local exchange. There is in particular provision for being able to transmit command or information messages from a local exchange to a telephone subscriber terminal unit at the time of an operation such as conditional call set-up as and when characteristic stages in its progress occur. There is provision for displaying specific error or malfunction information messages if a called telephone or mobile telephone terminal is busy, if there is traffic congestion temporarily preventing a called user from being reached, or if an unassigned or inappropriate call number is sent by a terminal unit to its local exchange at the instigation of a user of said unit. Of course, display on a screen is merely one particular option, and it is equally possible to use means for transforming the signals to be displayed into the form of acoustical signals produced by synthesizers, for example, or stored in the form of pre-recorded messages, in particular for blind users.

There is further provision for associating the transmission of information through the intermediary of this kind of message via a telephone line with a tone or a particular voice message sent via the same line either beforehand or possibly afterwards.

CLAIMS

1. A method of transmitting information to a telephone subscriber terminal unit having hardware and software information processing means for managing it, such as a telephone terminal (3) or a master station (5, 7) of a shared installation (4, 6) serving a few telephone terminals (3') and/or mobile telephone terminals (8), from a telephone network to which the unit is connected through a local exchange (2, 2') and via one or a few analog telephone lines (L), characterized in that there is provision for sending command and/or information messages from the local exchange of the unit to the management logic unit (5D, 7D) that the information processing means of that unit includes, which is then the destination unit, in addition to sending speech signals and signaling in the conventional way between said exchange and said unit, each message being coded so that it can be transmitted from the exchange to the unit by an analog telephone line and transcoded in the unit in order to be interpreted therein.

2. A method according to claim 1, wherein sending command and/or information messages to a telephone subscriber terminal unit from the local exchange of that unit follows a command effected by a user through the intermediary of the unit through which that user communicates.

3. A method according to claim 1 or claim 2, wherein the messages are messages whose content is intended to be at least temporarily stored at the unit that receives them.

4. A method according to any one of claims 1 to 3, wherein the messages are command transmission messages.

5. Telecommunications equipment, of the local exchange

(2, 2') type, of a telephone network which is connected by analog telephone lines to telephone subscriber terminal units having respective hardware and software information processing means for managing them, and in particular telephone terminals (3) and/or master stations (5, 7) of shared installations (4, 6) serving telephone terminals (3') or mobile telephone terminals (8), said equipment, of the local exchange type, being characterized in that it includes hardware and/or software means enabling it to send command and/or information messages to the management logic unit (5D, 7D) of the information processing means of a telephone terminal unit in addition to sending speech signals and signaling in the conventional way between said exchange and said unit, each message being coded so that it can be transmitted via an analog telephone line from the exchange to the unit.

6. Telecommunications equipment, of the telephone subscriber terminal unit type, adapted to be connected by at least one analog telephone line to a local exchange of a telephone network, and in particular a telephone terminal (3) or master station (5, 7) of a shared installation (4, 6) serving telephone terminals (3') or mobile telephone terminals (8), said unit including hardware and software information processing means for managing it, said telephone subscriber terminal unit type equipment being characterized in that it includes hardware and/or software means for communicating and processing information enabling it to receive command and/or information messages from the local exchange via an analog telephone line in addition to speech signals and signaling transmitted from said exchange, said messages being decoded on arrival into a form that can be used by management logic in the information processing means so that it can be exploited.

A B S T R A C T

A METHOD OF TRANSMITTING INFORMATION TO A TELEPHONE
5 TERMINAL UNIT VIA AN ANALOG LINE, AND TELECOMMUNICATIONS
EQUIPMENT APPLYING THE METHOD

A telecommunications method and equipment for
transmitting information to a telephone subscriber
terminal unit having hardware and software information
10 processing means (5D, 7D) for managing it. The unit is a
telephone terminal (3) or a master station (5, 7) of a
shared installation (4, 6) serving a few telephone
terminals (3') and/or mobile telephone terminals (8), for
example. It is connected to a telephone network through
15 a local exchange (2, 2') via one or a few analog
telephone lines (L). The method sends command and/or
information messages from the local exchange of the
terminal unit to information processing means of that
unit, in addition to signals conventionally transmitted,
20 after coding to enable their transmission by the analog
telephone line. The messages are transcoded in the unit
so that they can be interpreted.

25

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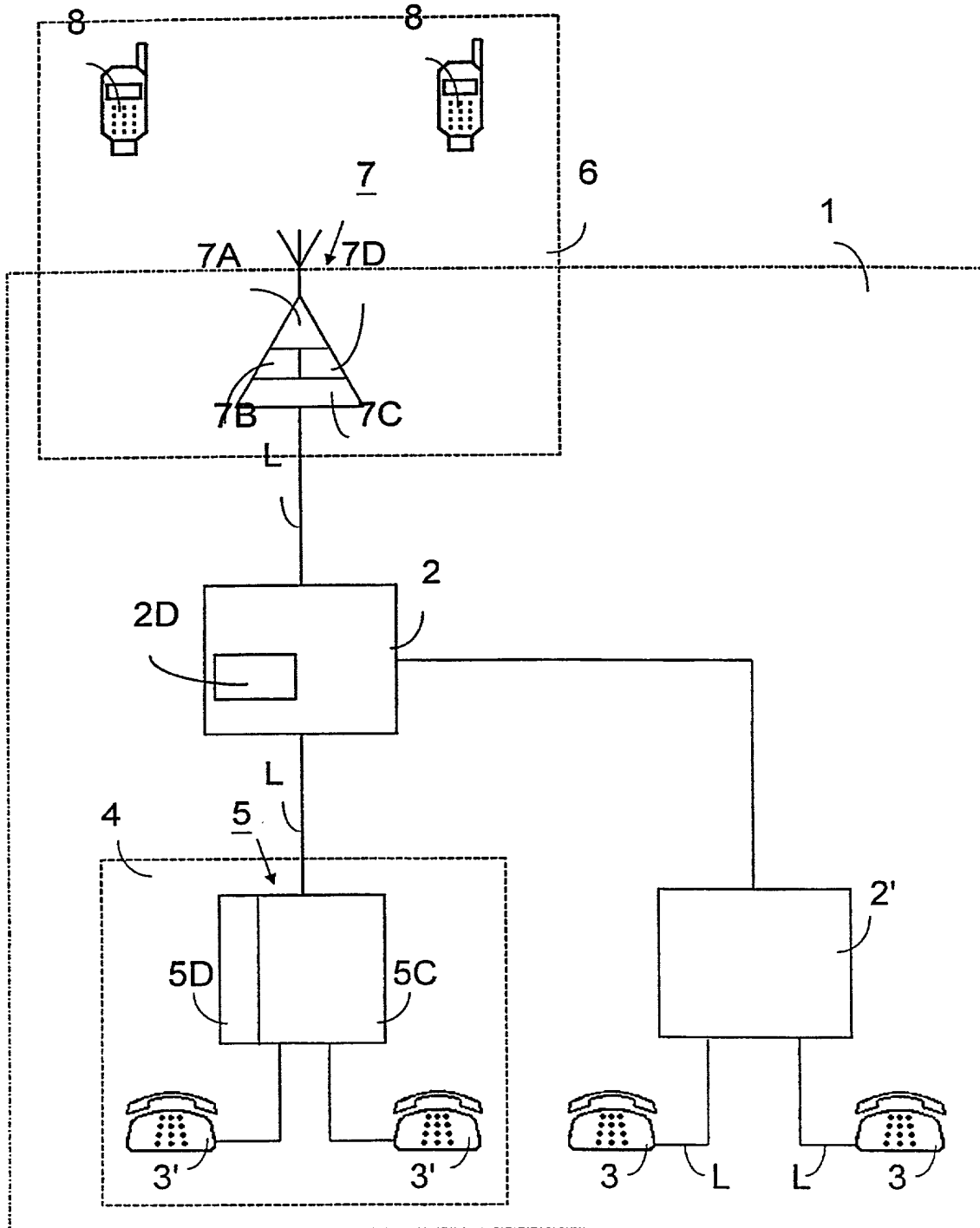
35

Translation of the title and the abstract as they were when originally filed by the
Applicant. No account has been taken of any changes that may have been made
subsequently by the PCT Authorities acting ex officio, e.g. under PCT Rules 37.2,
38.2, and/or 48.3.

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SINGLE FIGURE



705180"494E1660

French Language Declaration

Declaration and Power of Attorney for Patent Application

Déclaration et Pouvoirs pour Demande de Brevet

French Language Declaration

En tant que l'inventeur nommé ci-après, je déclare par le présent acte que:

As a below named inventor, I hereby declare that:

Mon domicile, mon adresse postale et ma nationalité sont ceux figurant ci-dessous à côté de mon nom.

My residence, post office address and citizenship are as stated next to my name.

Je crois être le premier inventeur original et unique (si un seul nom est mentionné ci-dessous), ou l'un des premiers co-inventeurs originaux (si plusieurs noms sont mentionnés ci-dessous) de l'objet revendiqué, pour lequel une demande de brevet a été déposée concernant l'invention de la description identifiée par le numéro de référence

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention in the specification identified by Docket No.

102600/LA/SRD

Je déclare par le présent acte avoir passé en revue et compris le contenu de la description ci-dessus, revendications comprises.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims.

Je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

Je revendique par le présent acte avoir la priorité étrangère, en vertu du Titre 35, § 119(a)-(d) ou § 365(b) du Code des Etats-Unis, sur toute demande étrangère de brevet ou certificat d'inventeur ou, en vertu du Titre 35, § 365(a) du même Code, sur toute demande internationale PCT désignant au moins un pays autre que les Etats-Unis et figurant ci-dessous et, j'ai aussi indiqué ci-dessous toute demande étrangère de brevet, tout certificat d'inventeur ou toute demande internationale PCT ayant une date de dépôt précédant celle de la demande à propos de laquelle une priorité est revendiquée.

I hereby claim foreign priority under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below, and have also identified below any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Prior foreign application(s) for which priority is claimed

Demande(s) de brevet étrangère(s) antérieure(s) dont la priorité est revendiquée

(Number) (Numéro)	(Country) (Pays)	(Day/Month/Year Filed) (Jour/Mois/Année de dépôt)
99 15 869	FRANCE	16/DECEMBER/1999

Prior foreign applications for which priority is not claimed

Demande(s) de brevet étrangères antérieure(s) dont la priorité n'est pas revendiquée

(Number) (Numéro)	(Country) (Pays)	(Day/Month/Year Filed) (Jour/Mois/Année de dépôt)

French Language Declaration

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 119(e) du Code des Etats-Unis, de toute demande de brevet provisoire effectuée aux Etats-Unis et figurant ci-dessous.

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

(Application No.)
(No de demande)

(Filing Date)
(Date de dépôt)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 120 du Code des Etats-Unis, de toute demande de brevet effectuée aux Etats-Unis, ou en vertu du Titre 35, § 365(c) du même Code, de toute demande internationale PCT désignant les Etats-Unis et figurant ci-dessous et, dans la mesure où l'objet de chacune des revendications de cette demande de brevet n'est pas divulgué dans la demande antérieure américaine ou internationale PCT, en vertu des dispositions du premier paragraphe du Titre 35, § 112 du Code des Etats-Unis, je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations, dont j'ai pu disposer entre la date de dépôt de la demande antérieure et la date de dépôt de la demande nationale ou internationale PCT de la présente demande.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Application No.)
(N0 de demande)

(Filing Date)
(Date de dépôt)

(Status)(patented, pending, abandoned)
(Statut)(breveté, en cours d'examen, abandonné)

Je déclare par le présent acte que toute déclaration ci-incluse est, à ma connaissance, véridique et que toute déclaration formulée à partir de renseignements ou de suppositions est tenue pour véridique; et de plus, que toutes ces déclarations ont été formulées en sachant que toute fausse déclaration volontaire ou son équivalent est passible d'une amende ou d'une incarcération, ou des deux, en vertu de la Section 1001 du Titre 18 du Code des Etats-Unis, et que de telles déclarations volontairement fausses risquent de compromettre la validité de la demande de brevet ou du brevet délivré à partir de celle-ci.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

French Language Declaration

POUVOIRS: En tant que l'inventeur cité, je désigne par la présente l'(les) avocat(s) et/ou agent(s) suivant(s) pour qu'ils poursuive(nt) la procédure de cette demande de brevet et traite(nt) toute affaire s'y rapportant avec l'Office des brevets et des marques: (mentionner le nom et le numéro d'enregistrement).

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: (list name and registration number)

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Signature de l'inventeur Date	Inventor's signature <u>[Signature]</u> Date <u>July 4, 2001</u>
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Nom complet du second co-inventeur, le cas échéant <u>2-00</u>	Full name of second joint inventor, if any (First Middle Last) <u>Michel LE CREFF</u>
Signature du second inventeur Date	Second inventor's signature <u>[Signature]</u> Date <u>July 1, 2001</u>
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(Fournir les mêmes renseignements et la signature de tout co-inventeur supplémentaire.)

(Supply similar information and signature for third and subsequent joint inventors)